



## *Perfection<sup>®</sup> In Space*



STS-114 astronaut Soichi Noguchi waves from the Shuttle payload bay, backdropped by the Earth below.  
*Image Credit: NASA*

### **Purpose**

The purpose of this activity is to evaluate the difficulties of working in space when wearing a space suit.

### **Background**

Ever wonder what it must be like to work in a space suit? The space suit is a sealed and pressurized suit designed to allow astronauts to leave a spacecraft while in space. The space suit is a complex device that the astronauts must master. One of the most difficult parts of mastering how to function in the space suite is working with the multilayered gloves.

### **Materials**

Work gloves (i.e., gloves carpenters wear)  
Data Table (Without Gloves and With Gloves)  
Printed version of the "Perfection<sup>®</sup> In Space" Activity

### **Procedure**

#### **1. Identify the players:**

- A. If in a classroom, divide the class into groups of three. Provide one Perfection<sup>®</sup> game for each classroom group.
- B. If at home, identify three people to participate in the activity. Provide one Perfection<sup>®</sup> game for each home participant.

#### **2. Define the rules:**

- A. Each member of the group (or person) will play the game one time without the gloves and one time with the gloves.
- B. Each member of the group (or person) will play the game five times and record the findings in the Data Tables provided.

#### **3. Make predictions:**

- A. Estimate the average number of pieces you think you can place correctly without gloves and with gloves.
  - 1. Without Gloves \_\_\_\_\_
  - 2. With Gloves \_\_\_\_\_

**4. Play the game:**

- A. Start the timer. Without gloves, place the pieces in the correct locations until time is up. Repeat five times.
- B. Record the number of pieces placed correctly during each round on the corresponding Data Table (Without Gloves).
- C. Start the timer. With gloves, place the pieces in the correct locations until time is up. Repeat five times.
- D. Record the number of pieces placed correctly during each round on the corresponding Data Table (With Gloves).

**5. Analyze the data:**

- A. Add the number of pieces placed correctly for each person to get the total and then calculate the average.
- B. Create a line graph of the results (quantitative). On the back of the graph, write a few sentences about the experience. Refer to your five senses (qualitative).

**Conclusion**

- 1. Do the results support your predictions?
- 2. What would you do to increase the average of correctly placed pieces when wearing gloves?
- 3. Given the results of the activity, what impact does wearing gloves have on working in space?

### DATA TABLE (WITHOUT GLOVES)

	Person/Group 1	Person/Group 2	Person/Group 3
Game #1			
Game #2			
Game #3			
Game #4			
Game #5			
Total # of pieces placed correctly			
Average # of pieces placed correctly			

### DATA TABLE (WITH GLOVES)

	Person/Group 1	Person/Group 2	Person/Group 3
Game #1			
Game #2			
Game #3			
Game #4			
Game #5			
Total # of pieces placed correctly			
Average # of pieces placed correctly			